



Land Ranger™ Metal Detector

Owner's Manual

The Land Ranger™ is a top-of-the line professional metal detector with high-end features for the serious metal detectorist. A large LCD panel displays current operating status at all times during operation in the field. All features and functions are highly visible, with no hidden programming, making your Land Ranger™ easy to use.

-
- ◆ Microprocessor-controlled
 - ◆ Programmable operation
 - ◆ Programmable targets
 - ◆ LCD target readout
 - ◆ Touch pad selection
 - ◆ Numbered target values
 - ◆ SMART TRAC ground control
-



Carefully read this entire manual before attempting to operate your new Land Ranger™ Metal Detector.

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The Basics of Metal Detecting

Bounty Hunter® metal detectors will detect any item composed all or in part of metal. Most common and inexpensive metal detectors also detect metal, but have three important limitations: discrimination, depth detection and ground balancing. Bounty Hunter™ metal detectors, on the other hand, possess superior discrimination, depth detection and ground balancing capabilities.

Metal Types

- iron—a low-grade metal; iron objects range from nails and bolts to valuable historical relics such as bullets, cannon balls, guns or shackles.
- aluminum—a low-grade metal; aluminum objects such as foil or cans are usually undesirable.
- zinc—a lower-grade metal; zinc is found in U.S. pennies minted after 1982 and many newer, non-US coins also contain zinc.
- copper—a medium-grade metal; copper is found in U.S. pennies minted before 1982.
- gold—a high-grade metal; jewelry or gold nuggets are gold items sought by detectorists.
- silver—a high grade metal; jewelry or silver coins are silver items sought by detectorists.

Discrimination

Discrimination is the detector's ability to identify the type of buried metal or completely eliminate unwanted metals from detection.

Bounty Hunter™ Metal Detectors all have superior discrimination capabilities, allowing them to differentiate between and identify different types of metals.

Example: If you are searching for valuable coins in a park or beach, you do not want to dig up pull tabs and cans. You can adjust the Bounty Hunter™ detector so that it will emit a distinct tone, or completely tune out these unwanted items so that you spend your valuable time digging up only valuable coins.

Depth Detection

Depth detection refers to the detector's ability to detect objects at various depths. The level of depth at which a detector can detect an object depends on the size of the object—the larger the object, the deeper it can be detected. Bounty Hunter™ metal detectors provide excellent depth detection through solid objects. The maximum depth detection capability of a Bounty Hunter™ Land Ranger™ is five feet. Maximum depth is only possible for large metal objects.

Example: A quarter can usually be detected from seven to ten inches deep. A quarter which has been buried for many years may be slightly oxidized causing the surrounding soil to contain oxidized metal. In this case, the quarter can develop a “halo” metallic signature that increases the effective size of the object, allowing its detection at a deeper depth. We have many testimonials from users finding coins more than one foot deep.

Ground Balancing

Ground balancing refers to a detector's ability to measure and average the soil's mineralization. Most soils contain naturally occurring minerals. Some soils are more highly mineralized than others, and soil mineralization can vary dramatically within an area from one spot to another. Bounty Hunter™ metal detectors have patented technology which “sees through” the earth's naturally occurring minerals, constantly “measuring” the soil's mineralization under its search coil and then “averaging” this measurement. The result is the soil's “average mineralization.”

Quick Start

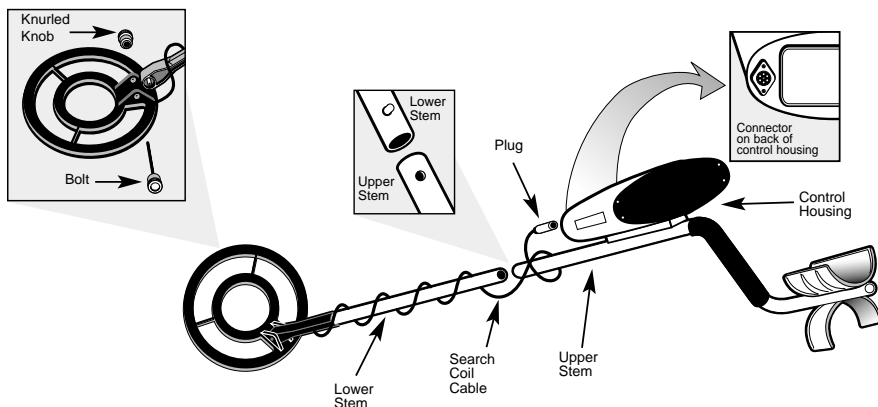
If you want to get started quickly do the following:

1. Assemble detector
2. Install two C-size Alkaline Batteries
3. Hold detector in front of you with coil two feet above the ground
4. Press Power ON/OFF Touch Pad
5. Wait for “ I_r ” to appear under “TARGET”
6. Lower search coil to the ground
7. Press “Disc/Target” Touch Pad
8. You are ready for motion ALL-METAL detection

Getting Started

Assembly

Assembling your Land Ranger™ is easy and does not require any tools. Using the following diagram as your guide, just follow these easy steps.



▲ To assemble the Land Ranger™

1. Attach the search coil to the lower stem with knob and bolt supplied.
2. Press the button on the upper end of the lower stem and slide the lower stem into the upper stem.
3. With your arm relaxed at your side and the search coil level to and about one inch above the ground, adjust the stem to a length that lets you maintain a comfortable upright posture.
4. Wind the search coil cable around the stem, leaving enough slack in the cable to let you adjust the coil when you are hunting on uneven ground.



TIP:

To adjust the coil, simply loosen the knob.

5. Insert the coil's plug into the matching connector on the control housing, making sure that the holes and pins line up correctly.

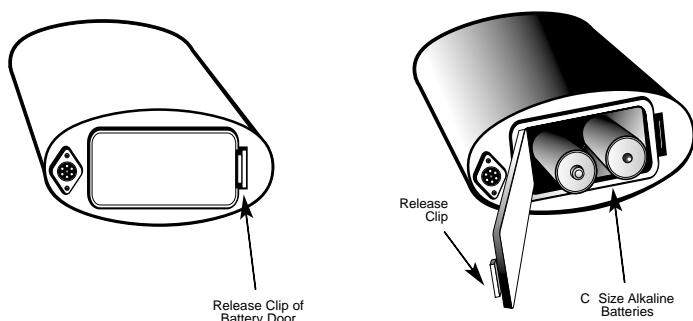


CAUTION:

Do not force the plug or you might damage it.
To disconnect the cable, pull out the plug—**do not pull on the cable.**

Batteries

Your Land Ranger™ metal detector requires two C **ALKALINE** batteries. Using the following diagram as your guide, follow these easy steps to install the batteries.



▲ To install the batteries

1. To remove the battery compartment cover, carefully press the release clip to the right of the cover.
2. Pull out the battery holder and install two C batteries.
3. Slide the battery holder back into the battery compartment.
4. To replace the cover, carefully insert the side opposite the release clip first and then carefully press down on the other side until the cover snaps in place.



CAUTION:

Use only fresh batteries of the required size and type. Batteries must be **ALKALINE** type, such as Energizer C size LR14.

▲ To check the batteries

1. Turn the unit **ON**.
The low battery indicator and all other arrow indicators appear briefly in the LCD display, indicating that the detector is working properly and the batteries are good.
2. If the arrow on the **BATT** (battery) dial points to **R** (Replace), replace the batteries.



NOTE:

Many metal detector problems are caused by weak, dead, or improperly connected batteries. If the detector does not turn on, or if it shows signs of weak volume, improper tuning, erratic operation, or drifting, replace the batteries.



TIP:

You can extend battery life by using headphones. The Land Ranger™ is equipped with a headphone jack for use with any 1/4" stereo-type headset.

Turn the unit **OFF** when not in use, and if you do not plan to use the detector for a week or more, remove the batteries.

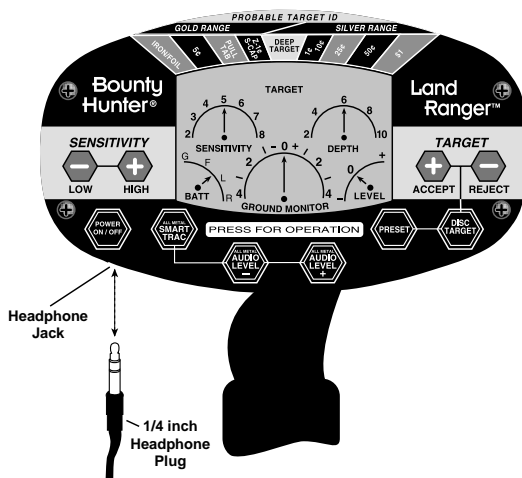
For optimum performance, replace the batteries when the **BATT** indicator on the LCD display indicates **L** (Low).

Headphones

The Land Ranger™ is equipped with a stereo headphone jack. Using headphones (not supplied) with your metal detector not only extends battery life, but also makes it easier to identify subtle changes in the threshold levels for better detection results.

▲ To connect and use headphones

1. Insert the headphone 1/4" plug into the headphone jack on the underside of the control panel, as shown in the following diagram.



2. Set the headphone volume to the lowest setting before you begin listening; after you begin listening, adjust each volume control to a comfortable level.

Listening Safety

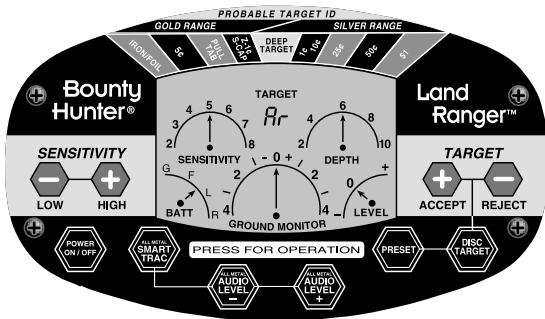
- Do not listen at extremely high volume levels—extended high-volume listening can lead to permanent hearing loss.
- Once you set the volume controls, do not increase them. Over time, your ears adapt to the set volume level, so a volume level that may not necessarily cause discomfort might still damage your hearing.

Traffic Safety

Do not wear headphones while operating your detector in traffic areas. This practice could create a traffic hazard and is illegal in some areas. While your headphones are designed to let you hear some outside sounds at normal volume levels, they still present a traffic hazard.

Control Panel

The control panel, as shown in the following diagram, is located at the center of the control housing. It consists of an LCD display, probable target ID fields, and several touch pads. The control panel provides control and constant reference during all detector operations. Combined with its 3-Tone Audio Target Identification, the Land Ranger's control panel provides as accurate a reference as possible while detecting in the field.



Probable Target ID fields

The **Probable Target ID** fields, located at the top of the control panel, represent various coin and metal types as well as a **GOLD RANGE** and **SILVER RANGE**. The coin types can also signal other types of metals or objects that are within a similar detection range. When the Land Ranger™ senses a target, an arrow on the LCD display points to the probable target on the **Probable Target ID** fields. Until the unit detects another object, the arrow remains pointing to the most recently detected object type. The following table lists the probable target IDs along with a brief description of each.

PROBABLE TARGET ID Fields



Probable Target ID	Description
GOLD RANGE SILVER RANGE	Located on the top portion of the control panel. The GOLD RANGE is located on the left and the SILVER RANGE is on the right. Other metal types can appear in this range: for example, iron, foil and nickel appear under GOLD RANGE and copper pennies appear under SILVER RANGE .
IRON / FOIL	Indicates that the target is probably iron or foil. Land Ranger™ has four levels of progressive iron discrimination—from small to large. Some rusted oxidized iron may occasionally register in the SILVER RANGE .
5c	Indicates that the target is possibly a nickel. Many gold rings register as 5c . A percentage of foil and many newer pull-tabs are still detected as nickels.
PULL TAB	Indicates that the object is probably a pull-tab. Some small gold may also register as a pull tab.
Z-1c S-CAP	Indicates that the target is probably a zinc penny (post 1982) or a screw cap. This target ID is usually accompanied by a medium tone. Other targets, such as large gold, may also register in this field.
DEEP TARGET	Indicates that the target is out of identification range.
1c 10c	These four fields indicate a coin type or an object or metal within similar detection range. Many other objects are identified in this range: for example, copper, brass and oxidized metals such as cans, jewelry, tokens, medals, or even junk metal objects that fall in the same range.
25c	
50c	
\$1	

Touch pads

The detector control panel includes several touch pads as shown and described in the following table. These touch pads are used to set detector operation.

Dectector Touch pads	
	POWER ON/OFF is used to turn the detector on.
	ALL METAL SMART TRAC is used to select the ALL METAL mode of operation.
	ALL METAL AUDIO LEVEL - and ALL METAL AUDIO LEVEL + are used to adjust the detector's audio threshold in ALL METAL mode.
	DISC TARGET is used to select DISCRIMINATION mode and to “lock in” programmed settings.
	PRESET is used to select preset targets in DISCRIMINATION mode.
	ACCEPT and REJECT are used to select customized or PRESET targets in DISCRIMINATION mode.
	LOW and HIGH are used to adjust the detector's sensitivity in DISCRIMINATION mode.

LCD Display

The LCD display consists of the **TARGET** readout and both adjustment and indicator dials. Arrows also appear at the top of the LCD display, pointing to the probable target detected in the Probable Target ID fields.

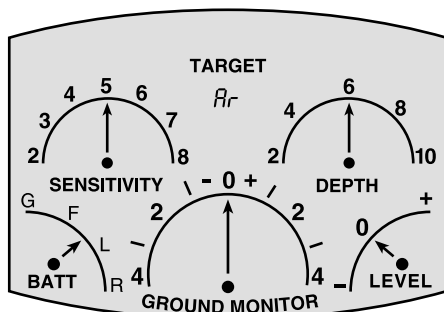
▲ TARGET Readout

The **TARGET** readout displays general detector operating information. It appears in the top center of the LCD display between the **SENSITIVITY** and **DEPTH** dials. The following table lists the general operating abbreviations that appear under **TARGET**, their meaning, and a brief description of each.

TARGET Readout		
<div>TARGET</div> <div>Ar</div>		
TARGET	Meaning	Description
Ar	Air Value	Indicates the detector is testing the air.
gb	Ground Balance	Indicates the unit has taken ground measurements and averaged them.
rY	Discriminate Mode	Indicates the detector is ready for operation in ALL METAL mode.
288	ID Numbers 0-299	Indicate air and ground measurements and target value range for more detailed target identification.
IR	Discrimination	Indicates the detector is ready for selective target discrimination adjustment in the DISCRIMINATION mode.
IR 1	Iron Mass Level 1	Indicates rejection of small iron objects.
IR 2	Iron Mass Level 2	Indicates rejection of small to medium iron objects.
IR 3	Iron Mass Level 3	Indicates rejection of medium to large iron objects.
IR 4	Iron Mass Level 4	Indicates rejection of all iron objects.
Fo	Foil	Indicates object is composed of aluminum foil.

▲ Dials

The LCD display has five indicator/adjustment dials, as shown in the following diagram. All are used to monitor the detector's operation, and the **SENSITIVITY** and **LEVEL** dials are used in conjunction with touch pads on the control panel to adjust the detector's sensitivity.



SENSITIVITY

The **SENSITIVITY** dial is located on the top left of the LCD display and is used in conjunction with the **LOW (-)** or **HIGH (+)** touch pads to adjust the Land Rangers™ sensitivity while operating in **DISCRIMINATION** mode. The arrow points to the selected setting. Adjust sensitivity to eliminate electromagnetic interference or to adjust detector depth.

DEPTH

The **DEPTH** dial is located on the top right of the LCD display and indicates the depth of the detected target in a range of 2-10 inches. The arrow points to the detected depth. When the depth exceeds 10 inches, an arrow appears under **DEEP TARGET** in the **PROBABLE TARGET ID** fields. Depth detection is usually accurate to eight inches or less for coin-sized objects only.

BATT

The **BATT** dial is located on the bottom left of the LCD display and indicates battery strength as follows:

G=Good

F=Fair

L=Low

R=Replace

GROUND MONITOR

The **GROUND MONITOR** dial indicates whether the detector has achieved ground balance in all soil conditions while operating in **ALL METAL** mode.

LEVEL

The **LEVEL** dial, located on the bottom right of the LCD display, is used in conjunction with the **ALL METAL AUDIO LEVEL** - or the **ALL METAL AUDIO LEVEL** + touch pads to adjust the volume level (threshold) when operating the detector in **ALL METAL** mode.

TARGET Readout	
The table below list some common target value equivalents. With experience in the field, you will recognize many types of metals by their numeric value.	
Value Range	Objects
32-41	Nickel
51-56	\$5 Gold Peice
35-60	Ring Pull-Tab
62-90	Beavertail Pull-Tab
99-104	Zinc Penny
115-145	Wheat Cent
141-149	Clad Dime
150-163	Mercury Dime
183-197	Clad Quarter
190-202	Silver Quarter
187-197	Clad Dollar
224-238	Franklin Half Dollar
239-255	Silver Dollar
293-299	Rusty Hinge

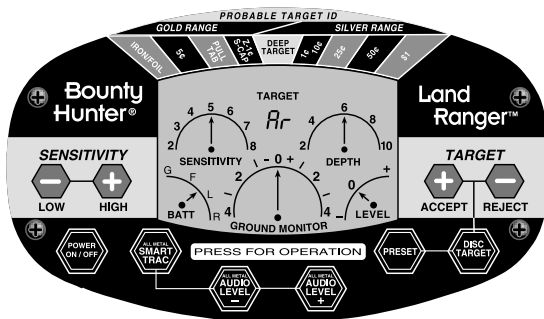
Basic Operation

Turning the Detector ON

Follow these steps to turn on your Land Ranger™ detector.

1. Hold the detector with the search coil about waist high and press the **POWER ON/OFF** touch pad.

*The unit emits three beeps and **Ar** appears momentarily in the **TARGET** readout, indicating that the detector is measuring the air.*



2. When **IR** appears in the **TARGET** readout, lower the detector to the ground and select from one of two Land Ranger' modes of operation:
 - ◆ **ALL METAL**—This mode is used to detect all metals without motion. In this mode, metals are identified by volume increases in only one continuous medium tone.
 - ◆ **DISCRIMINATION**—This is a motion mode that allows you to eliminate undesirable objects from detection. In this mode, metals are identified via the LCD display and with three distinct tones. By pressing Disc Touch Pad after **IR** appears, you automatically enter motion All Metal Mode; no metals are rejected.

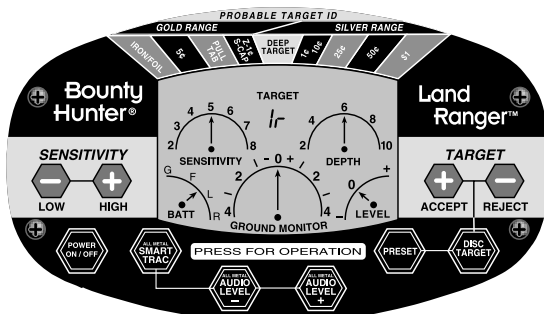
DISCRIMINATION Mode

In **DISCRIMINATION** mode, you can accept all targets, select **PRESET** targets, or program your own combination of targets to accept or reject. In this mode, the detector must be in motion to detect targets.

▲ To accept all targets

1. Perform the steps described in *Turning the Detector ON* section of this manual.
2. Press the **DISC TARGET** touch pad to “lock-in” the programming.

The blinking arrow under **IRON/FOIL** disappears and **IR** appears in the **TARGET** readout (indicating that the detector is set to accept all metals, including all levels of iron) as shown in the following diagram.



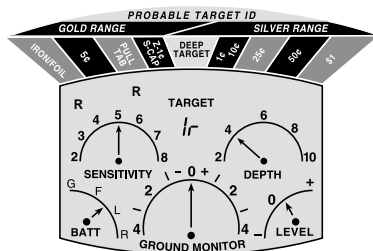
▲ To select PRESET targets

The Land Ranger[®] has three **PRESET** modes:

PRESET 1	Rejects all levels of iron and aluminum foil.
PRESET 2	Rejects pull-tabs, iron and all objects rejected in PRESET 1 mode.
PRESET 3	Rejects zinc pennies, screw-caps, pull-tabs, aluminum, other similar objects, and all objects rejected in PRESET 1 and PRESET 2 modes.

1. Perform the steps described in *Turning the Detector ON* section of this manual.
2. Press the **DISC TARGET** touch pad.
A blinking arrow appears under **IRON/FOIL** in the **Probable Target ID** fields, meaning the detector is ready for programming.
3. Press the **PRESET** touch pad once to select **PRESET 1**.
The blinking arrow under **IRON/FOIL** is replaced by an **R**.
4. Press the **PRESET** touch pad twice to select **PRESET 2**.
An **R** appears under **PULL TAB** in the **Probable Target ID** fields.
5. Press the **PRESET** touch pad three times to select **PRESET 3**.
An **R** appears under **Z-1¢/S-CAP** in the **Probable Target ID** fields.

R appears under the metals excluded by the **PRESET** level you selected, as shown in the following example.



Example of Land Ranger™ set to PRESET 2 (iron/foil and pull tabs are rejected).



NOTE:

Pressing **PRESET** a fourth time clears all **PRESET** settings and the unit resets to accept all metals.

▲ To select customized targets

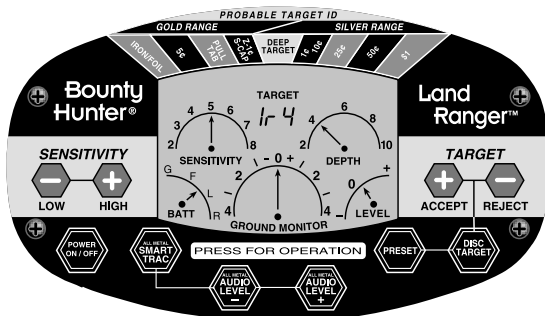
The Land Ranger™ has a valuable detection feature called *Progressive Iron Discrimination* which allows you to set four levels of iron discrimination based on size. **Before you can customize targets, you must first select the size of iron to eliminate.**

Progressive Iron Discrimination Levels	
IR 1	Rejects the smallest of iron objects, such as tacks, small screws and nails, and BB size objects.
IR 2	Rejects objects up to about twice the size of IR1 type objects.
IR 3	Rejects mid-size objects such as a pocket knife, but detects larger objects such as a pistol, cannonball or strongbox.
IR 4	Rejects all iron objects.

1. Perform the steps described in *Turning the Detector ON* section of this manual.
2. Press **REJECT** once to select **IR1**.
IR1 appears in the **TARGET** readout.
3. Press **REJECT** twice to select **IR2**.
IR2 appears in the **TARGET** readout.

4. Press **REJECT** three times to select **IR3**.
IR3 appears in the **TARGET** readout.
5. Press **REJECT** four times to select **IR4**.
IR4 appears in the **TARGET** readout.
6. Press **ACCEPT** after your selection to “lock-in” the iron discrimination level.

*The level of iron discrimination you selected appears in the **TARGET** readout, an **R** appears under **IRON/FOIL**, and the blinking arrow appears under **5¢** as shown in the following example.*



7. Press **REJECT** or **ACCEPT**, depending on whether you want to accept or reject the **5¢** targets.



NOTE:

Normally, you want to accept the **5¢** targets because many gold items are detected as such.

*The blinking arrow appears under **PULL TAB**.*

8. Depending on how you want to customize your targets, continue pressing **ACCEPT** or **REJECT** as the blinking arrow appears in the remaining **Probable Target ID** fields.



TIP:

To accept the remaining targets and “lock-in” your selection(s), you can press **DISC TARGET** at any time.

The level of iron discrimination you selected appears in the **TARGET** readout, and **R** appears under your customized selections as shown in the following diagram.



Example of Land Ranger™ set for IR 4 iron discrimination with customized selections for pull tab, screw cap and zinc penny rejection.

▲ To adjust sensitivity in DISCRIMINATION mode

After you select your **PRESET** or customized targets, you can adjust the detector's sensitivity. The default setting is 5 on the **SENSITIVITY** dial.

Press the **LOW (-)** or **HIGH (+)** touch pad on the control panel to adjust the detector's sensitivity while monitoring your adjustment on the **SENSITIVITY** dial.

The arrow on the **SENSITIVITY** dial in the LCD display points to the selected setting.

▲ To listen to tones in DISCRIMINATION mode

DISCRIMINATION mode includes the **Audio Target Identification** (ATI) feature that identifies objects using three different tones or no response at all, as shown in the following diagram.

NO RESPONSE		LOW TONE		MEDIUM TONE		HIGH TONE	
Iron & Steel		Gold & Nickel		Old & New Pull Tabs		Copper, Silver & Bronze	



NOTE:

Three-tone **Audio Target Identification** is disabled in the **ALL METAL** mode.

Tips for listening in **DISCRIMINATION** mode

- ◆ Most iron and steel objects emit a low tone, but on occasion when the iron is highly oxidized, you might hear a high tone. For example, some rusted bottle caps will emit a high tone and appear under the **SILVER RANGE** in the **Probable Target ID** fields. You can prevent this from happening by selecting the size of iron to eliminate. See To customize targets section of this manual for instructions on how to set progressive iron discrimination levels.
- ◆ All nickels and many gold items emit a low tone, but some larger gold objects emit a medium tone, depending on purity. These objects will appear in the **GOLD RANGE** in the **Probable Target ID** fields, unless you've selected to reject this range.
- ◆ Old and new pull tabs usually emit a medium or low tone. A Beaver Tail (pull tab broken in half) or a bent, folded or highly oxidized pull tab may emit a low tone.

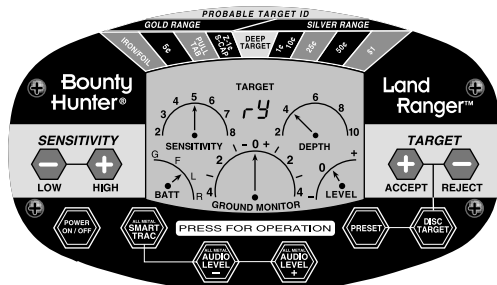
ALL METAL Mode

In the **ALL METAL** mode, the volume of one continuous medium tone increases when the Land Ranger[®] detects metal. The detector does not have to be in motion in this mode.

▲ To select **ALL METAL** mode

1. Perform the steps described in Turning the Detector ON section of this manual.
2. Press the **ALL METAL SMART TRAC** touch pad.

gb appears briefly in the **TARGET** readout, followed by **rY** indicating that the unit has measured the ground and is ready for operation in **ALL METAL** mode), as shown in the following diagram.



Note that since targets cannot be rejected in this mode, there are no **Rs** under the probable ID types.

3. If **rY** does not appear in about 10 seconds, move the search coil to another area.

**TIP:**

Initially, if the unit is not reacting properly, push the **ALL METAL SMART TRAC** touch pad a couple of times to make sure that the batteries are connected and not discharged.

▲ To adjust sensitivity in ALL METAL mode

For maximum sensitivity, you should hear a slight threshold hum while operating in **ALL METAL** mode. If you do not hear this threshold hum, sensitivity is low and the audio level requires adjustment.

To adjust the audio level

1. Make sure that the arrow in the **GROUND MONITOR** dial points to 0; sensitivity adjustments should only be made when the **GROUND MONITOR** dial indicates that the detector is properly ground balanced.
2. Press the **ALL METAL AUDIO LEVEL** - touch pad or the **ALL METAL AUDIO LEVEL** + to adjust the audio level.

*The arrow on the **LEVEL** dial in the LCD display reflects your adjustment, +/- and you should hear a slight threshold hum.*

▲ To adjust detector when ground conditions change

If actual ground conditions change (example: moving from low to highly mineralized ground, or vice versa) the **SMART TRAC** system automatically makes the adjustment for the variation. You will hear a momentary change in the threshold hum while the unit makes the adjustment. Do not make any adjustments to the **ALL METAL AUDIO LEVEL** at this time; simply wait about 10 seconds and the hum will return to normal.

If the hum does not return to normal after 10 seconds

1. Press **ALL METAL SMART TRAC** for an instant ground balance update.
2. If the hum does not return to normal after pressing **ALL METAL SMART TRAC**, lower the unit's threshold using the **ALL METAL AUDIO LEVEL** +/- touch pads.

If you are getting a constant signal

1. Try moving the search coil to a different location and press **ALL METAL SMART TRAC** for instant ground balancing (in case metal is setting the unit off).
2. If you are still getting a constant signal, lower the unit's threshold using the **ALL METAL AUDIO LEVEL** +/- touch pads.

▲ To update ground balancing

Anytime the detector detects a target, normal fluctuations in ground conditions cause the arrow on the **GROUND MONITOR** dial to move from its center 0 position slightly right or left; the Land Ranger™ **SMART TRAC** feature automatically adjusts to these minor variances usually within 15 to 20 seconds. If the arrow does not return to its center 0 position after 15 to 20 seconds, or if at any time you are unsure about the ground balance, do the following:

1. First, make sure that you are not standing over a detected target.
2. Press the **ALL METAL SMART TRAC** touch pad until **gb** appears in the **TARGET** readout.
3. When **rY** appears in the **TARGET** readout, the unit is ready for use.



TIP:

When ground balancing the unit, make sure that there is no metal on top of or under the ground, otherwise you won't be able to tell if the tone being emitted is caused by metal or soil mineralization. If you think you are over metal, move to another spot—observe your **GROUND MONITOR** carefully when moving the search coil to another spot. If in the - range, it is balancing for negative conditions; if in the + range, it is balancing for positive ground conditions or detecting a metal object.



NOTE:

Once you've adjusted for ground conditions, your settings will not change until you turn the unit **OFF**, even if you go back and forth between **ALL METAL** mode and **DISCRIMINATION** mode.

Testing the detector

Test your detector using different coin types (penny, nickel, etc.) and other miscellaneous metal objects such as a nail, a gold ring, a railroad spike, etc. Always test the detector away from other metals not selected for testing.

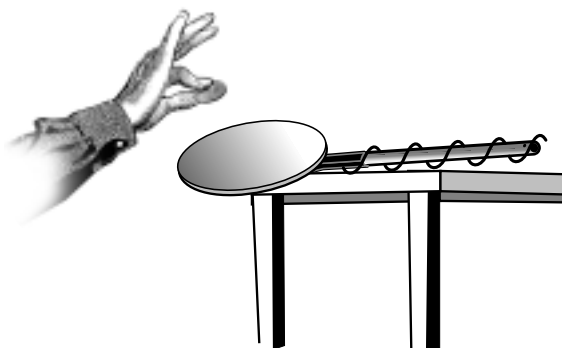
▲ Ground Testing

Do not test the unit indoors on the floor because floors usually contain metal that may interfere with the detector's signal or even mask the signal completely.

- ◆ In **DISCRIMINATION** or **PRESET** mode, you must move the search coil over the object—do not move the coil too quickly over the object and keep the coil 1/2" above the ground when sweeping.
- ◆ In **ALL METAL** mode, movement of the search coil is not required—hold the coil over the object and 1/2" above the ground.

▲ Air Testing

Follow these steps to test your detector as it lays stationary and you pass objects over its search coil, as illustrated in the following diagram.



*Position of detector and
object when air testing the
Land Ranger™*

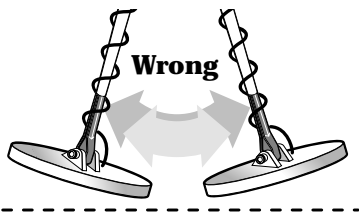
1. Place the detector on a table and rotate the search coil towards the ceiling.
2. Remove any watches and rings from your hands and make sure no metal in or on the table is close by.
3. If you are in **DISCRIMINATION** or **PRESET** mode, sweep one of the objects you selected for testing across (and about 4" from) the coil.

4. If you are in **ALL METAL** mode, hold one of the objects you selected for testing over (and about 4" from) the coil.
5. Since gravity causes coins to lie flat on or under the ground, sweep coins with the flat surface parallel to the search coil. Bounty Hunter™ models with LCD indicators are programmed to sense the coin type and depth while looking at the flat side of the coin; sweeping the edge of the coin across the search coil may cause inaccurate readings.
6. If the detector is not properly identifying the object, try sweeping/ holding the object closer to the coil and make sure that you are sweeping the flat surface of the object parallel to the search coil.

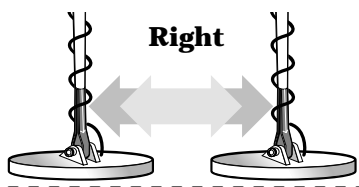
Using the Detector in the Field

▲ Coil Movement

- ◆ When sweeping the coil, be careful to keep it level with the ground about 1/2" from the surface—never swing the coil like a pendulum. The following diagrams illustrate incorrect and correct coil movement.



Do not swing the coil like a pendulum.



Swing the coil level with the ground.



Swing the coil in a half-circle and repeat this motion every step you take to guarantee complete coverage of the area.



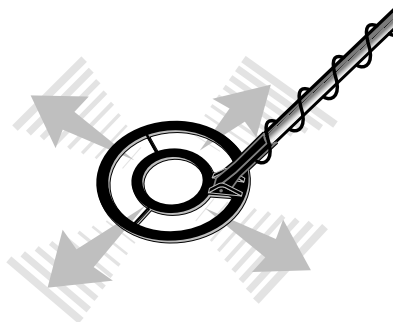
Swing the search coil gently side-to-side, slightly overlapping each sweep as you move forward.

- ◆ Make sure you keep your search coil consistently about 1/2" above the ground as you sweep. Raising the coil during the sweep or at the end of the sweep will cause false readings.
- ◆ Move slowly—hurried movement will only cause you to miss targets.

▲ Pinpointing the target

Accurate pinpointing takes practice. Follow these steps for best results when attempting to pinpoint a target.

1. When you hear a good tone response indicating a buried target, continue sweeping the search coil over the target in a narrowing side-to-side pattern.
2. Keeping your eyes on the ground, notice where the “beep” occurs as you move the search coil slowly side-to-side.
3. Stop the search coil directly over this spot.
4. Move the search coil straight forward and straight back towards you a couple of times.
5. Again, keeping your eyes on the ground, notice where the “beep” occurs.
6. If necessary, “X” the target at different angles to zero in on the exact spot on the ground where the “beep” occurs. The following diagram illustrates the proper “X-ing” technique.



Try drawing an X over the location where the tone is being emitted.



TIP:

If “X-ing” the target does not yield one point, try finding the perimeter of the object by “circling” the object; using the leading edge of the search coil, circle around the large object. Many large objects will seem irregular in size.

▲ False signals and chatter

The biggest frustrations you will encounter when using a metal detector are false signals and chatter. The Land Ranger™ is a very sensitive, deep-seeking detector. It will respond loudly to many targets for which other detectors might only emit a weak signal. As a result, the detector may emit false, trash-induced signals that seem confusing. Electrical interference, or large, irregular trash objects can also cause false signaling. With practice using your Land Ranger® in the field, you will learn to recognize the broken, non-repeatable tones that characterize the false signal.

Tips for dealing with false signaling

- ◆ Dig only those targets that emit a strong, repeatable signal as you move the search coil over the same spot on the ground. Most good objects will respond with a consistent, repeatable signal. If a signal does not repeat after sweeping the coil directly over the suspected target a few times, it is more than likely trash metal.
- ◆ Metal Detectors emit magnetic fields which can interfere with one another. If you are detecting with another person who has a detector, you could have interference between the detectors; always keep two detectors at least 20 feet apart. Also, avoid searching under electrical power lines.
- ◆ As you sweep the search coil back and forth over the ground, learn to recognize the difference between the signals that occur at random and signals that are stable and repeatable.
- ◆ When searching very trashy ground, it is best to scan small areas with slow, short, overlapping sweeps.
- ◆ To prevent erratic signals and difficult pinpointing in trashy areas, set your detector to rejects all trash metals (i.e., reject all metals in the **GOLD RANGE**) or consider purchasing the Bounty Hunter™ 4" Gold Nugget Coil System.

Chatter

Electromagnet fields occur naturally or can be man-made. Indoors, household appliances, particularly TVs and lights, emit electromagnetic energy. Outdoors, power lines, either overhead or buried, create significant interference and the earth also emits electromagnetic energy. The detector's coil creates a magnetic field. The detector senses other electromagnetic fields and can sometimes chatter or beep erratically. If this happens, reduce the detector's sensitivity.

▲ Ground Balancing

To achieve proper ground balancing in motion modes, the search coil must stay in motion at a constant speed. Speeding up or slowing down the coil rhythm causes the detector to calculate a false “average mineralization.” The most challenging environments are beaches and black sand deposits where gold is commonly found. The water line that separates wet sand from dry sand is an abrupt change in soil condition which can confuse even a Bounty Hunter™. If you are searching a beach, keep the detector on either wet or dry sand—moving between the two can induce false signaling. Black sand is very highly mineralized, and without an advanced technology detector, finding a gold nugget is like looking for a needle in a haystack. Gold prospecting is possible with all Bounty Hunter™ detectors, but for best results, use the Land Star™, Land Ranger™, or Timer Ranger™.

▲ Resetting the detector

If battery voltage is low or if you are testing with the search coil near a large metal object, the detector might “lock up” and sound a continuous tone. To reset the detector, do one (or all, if necessary) of the following:

1. Reset the detector by turning it **OFF** and **ON** repeatedly.
2. Move to a different testing location.
3. Check and replace the batteries, if necessary.

Detector Applications

Coinshooting

Coinshooting is probably the most popular metal detecting application. Coinshooting opportunities abound—even your own yard may yield some interesting old coins. You can search for coins just about anywhere—parks, baseball fields, yards, dirt parking lots and swimming areas are only a few of the many possibilities.



Most coinshooters strive, at the very least, to find silver coins (pre-1955). You can use clad coins in current circulation to practice and test your detector's abilities to identify targets.

▲ Recommended Mode of Operation

The type of area where you are hunting and the level of trash in that area usually determines the mode of operation. The recommended mode of operation for coinshooting is **DISCRIMINATION** mode with the following settings.

PRESET Level 3 (P3)

If an area is heavily trash laden, try using the third level of PRESET (PRESET 3). See the *DISCRIMINATION Mode, To select PRESET targets* section of this manual for instructions on how to select PRESET levels. In this mode, the unit responds to all coins types and other possible trash metal that falls under these coin types. This mode may not, however, detect some gold rings, and might still detect a percentage of pull tabs especially those that are broken in half (Beaver Tails).

As you are sweeping your coil, you may get many types of signals and indications in a trashy area. Try to dig only signals that are repeatable and lock onto the target ID. Depending on what level of **SENSITIVITY** you've selected, you may encounter numerous **DEEP TARGET** indications. Only attempt to dig a **DEEP TARGET** indication if it is repeatable. Even then, the signal may disappear once you start digging, possibly because the object is highly oxidized or is recognized as trash metal once the detector comes into range.

Customized target selection to reject all trash metals

DISCRIMINATION mode allows you to further narrow your discrimination if you are encountering many Nickel indications that turn out to be pull-tabs or foil—a common problem in heavily trashed areas. Some Beaver Tails (pull-tabs broken in half) have the same detection properties as nickels.

Customize your selections so that you eliminate all metal that falls in the **GOLD RANGE**. See the *DISCRIMINATION Mode, To customize targets* section of this manual for instructions on how to customize targets. Eliminating all metals in the **GOLD RANGE** narrows your discrimination to strictly silver and copper coins and other metals that may fall in the **SILVER RANGE**.

Your LCD display will appear as shown in the following diagram.



The Land Ranger™ is set to reject all objects in the GOLD RANGE, thus minimizing trash and detecting mostly silver and copper coins.



TIP:

Once you've had some practice using your Land Ranger™ detector, you may want to fine-tune it so that it will not eliminate zinc pennies or nickels. Sometimes, Indian Head pennies indicate as zinc pennies and gold coins may indicate as nickels.

Relic Hunting

A relic is anything of historical value, especially reflecting another age. Before you undertake a search for relics, first do some research in your local library or on the Internet. Look up old newspapers and find out more about your community's history. Discover what historical events may have taken place in your locality and where historical landmarks are hidden from present day progress. Many times there are new buildings and pavement over where historical events took place or where historical landmarks once stood. Try to pinpoint these locations on a map. Hopefully, you will find an empty lot or a farmer's field where a historical landmark was once located. Remember, have respect for private property and get the owner's permission before searching for relics on private land.



Relics are time capsules of history since every relic has a story to tell. More that monetary value, relics have historical value. While there are instances where collectors have paid substantially for a relic, they are of much more value to the local museum where the community's history is revered.

▲ Recommended mode of operation

When relic hunting, you will want to detect iron along with precious metals. The recommended mode of operation for relic hunting is **DISCRIMINATION** or **ALL METAL** mode with the following settings.

ALL METAL mode

When relic hunting in the ALL METAL mode, be careful to swing the search coil slowly, listening for fluctuations in volume. When you encounter a louder signal, experiment by sweeping around the area to determine where the signal starts and stops. This is not only helpful in determining if the signal is truly a target, but in pinpointing its exact location and size. If you cannot isolate the target due to concentrations of targets, try de-tuning the detector by

pressing the **ALL METAL AUDIO LEVEL (-)** touch pad. This will lower the sensitivity and narrow the detection field, thus minimizing detection of metal objects surrounding the desired target.

DISCRIMINATION mode

If you are relic hunting in **DISCRIMINATION** mode, you want the unit to detect all types of metal, including iron objects. Set the detector to accept all metals. See the *DISCRIMINATION Mode, To accept all metals* section of this manual for instructions on how to set the detector to accept all metals. If your are encountering a lot of nails, set the iron discrimination level to IR 2 or IR 3.

Jewelry Hunting

When targeting jewelry items, consider where these items are commonly lost. There are many possibilities, including playing fields where a variety of sports take place, beach areas, playgrounds, and sandboxes.



When jewelry hunting, it is not uncommon to find many coins in the process of digging up rings.

▲ Recommended mode of operation

Since the main objective when jewelry hunting is to detect all gold items, the recommended mode of operation is **DISCRIMINATION** mode with the following settings.

PRESET Level 3 (P3)

Try using the third level of **PRESET** (PRESET 3). See the *DISCRIMINATION Mode, To select PRESET targets* section of this manual for instructions on how to select **PRESET** levels. The third level of **PRESET** eliminates most trash items while detecting most all coin types and other possible gold and silver items similar to the coin types (such as jewelry). Fortunately, most small gold items fall under the **5¢** indication. Also, make sure that you accept all 4 levels of iron, since small gold rings may fall in the **IRON/FOIL** range. While you will dig up a lot of trash in this setting, you are guaranteed that no gold items are escaping detection.

Customized target selection

You may also want to customize your selection of targets, depending on what type of trash you are encountering. For example, if you're encountering many pull tabs but very little iron, try eliminating pull tabs only. See *DISCRIMINATION Mode, To customize targets* section of this manual for instructions on how to customize your targets.

Gold Prospecting

Using a metal detector to retrieve gold is still a relatively new art form. Gold prospecting poses totally different challenges than coinshooting or jewelry hunting. The biggest challenge is the black sand (highly mineralized soil with iron content) where gold is typically found; this highly mineralized soil may set off your detector, producing false signals. The Land Ranger's SMART TRAC system constantly measures ground conditions and makes adjustments for highly mineralized areas, making it well-suited for gold prospecting.



Metal detectors have been instrumental in creating another gold rush in the last two decades. Older gold mines that had long been closed have been reopened with metal detectors used as the main tool for gold retrieval. Today, metal detectors are used in every aspect of gold detecting—from searching out the mother lode to finding “placer” deposits, metal detectors have proven indispensable.

▲ Recommended mode of operation

The recommended mode of operation for gold prospecting is **ALL METAL** mode. This mode ensures the detection of smaller objects, such as gold nuggets. Gold flakes are difficult to detect unless they are highly concentrated. See the *ALL METAL mode* section of this manual for instructions on its operation.

▲ Tips for gold prospecting

- ◆ Sweep the search coil and listen carefully for volume fluctuations.
- ◆ The unit emits a continuous louder tone when it detects precious metals and the search coil is over the target. Try moving the coil on the *outside of the signal* to determine the object's size and exact location.
- ◆ Remember that highly mineralized soil where gold is found can cause false readings

Cache Hunting

A cache is anything of value that may be hidden or buried to prevent theft. Long ago, people would hide their life savings near their homestead because they did not trust banks. Caches also refer to pillaged or lost treasure.



Cache hunting requires extensive research and careful deduction.

▲ Recommended mode of operation

Since caches are usually buried deep, the recommended mode of operation for cache hunting is **ALL METAL** mode. This mode does not require motion, helping you determine the size of the object and pinpoint its location. While hunting in this mode might yield considerable trash targets, it may be worthwhile if there is strong evidence that the particular cache you're hunting for actually exists. See the *ALL METAL mode* section of this manual for instructions on its operation.

▲ Tips for cache hunting

- ◆ Sweep the search coil slowly; pay particular attention to any increase in volume, indicating that the unit has detected metal.
- ◆ Try clearing all surface trash metal to allow the Land Ranger™ to detect deeper targets without interference. You may need to adjust the detector's sensitivity; see *To adjust sensitivity in ALL METAL mode* section of this manual for instructions on adjusting the detector's sensitivity.
- ◆ If the unit emits a continuous loud signal, there may be too much trash in the area for it to operate at its ground balance peak. Try de-tuning the detector by pressing the **ALL METAL AUDIO LEVEL (-)** touch pad so that you can distinguish smaller metal.
- ◆ If adjusting sensitivity does not work, find another area close by that contains less metal to assure that the unit is properly ground balancing.

Troubleshooting

Common Problems

The following table lists common problems that you may encounter when using your metal detector.

Problem	Probable Cause(s)	Solution(s)
Detector is emitting false signals in the field.	<ul style="list-style-type: none">• SENSITIVITY may be set too high.• Improper coil movement.• Highly oxidized metal.	<ul style="list-style-type: none">• Reduce SENSITIVITY per instructions in this manual for your mode of operation.• Swing the coil slowly.• Abandon the target—if the signal does not repeat as you sweep the same area, the target is usually highly oxidized (rusty) metal and not worthwhile.
<ul style="list-style-type: none">• LCD readout is not “locking in” or identifying while passing over a target.• Detector emits more than one tone over the same target.	<ul style="list-style-type: none">• More than one object over the area you are sweeping.• Odd, unrecognizable metal.• Highly oxidized metal.• SENSITIVITY may be set too high.	<ul style="list-style-type: none">• Use 4” coil accessory to narrow detection field.• Sweep over target at different angles.• Abandon the target—if the signal does not repeat as you sweep the same area, the target is usually highly oxidized (rusty) metal and not worthwhile.• Reduce SENSITIVITY per instructions in this manual for your mode of operation.
Detector not stable and has a pulsing, distorted tone instead of a clear one.	<ul style="list-style-type: none">• Operating very near another detector.• Operating near power lines that can interfere with detector's frequency.	<ul style="list-style-type: none">• Move at least 20 feet from the second detector.• Move away from power lines.

Problem	Probable Cause(s)	Solution(s)
<p>Detector is repeating a loud tone or constant, repeating tones (locking up).</p>	<ul style="list-style-type: none"> • Batteries are low. • Coil or coil connection is damaged. 	<ul style="list-style-type: none"> • Replace batteries per instructions in this manual. • Reset the detector per instructions in this manual. • Replace coil. • Check coil plug connection.

Caring for Your Metal Detector

Your Land Ranger™ Metal detector is an example of superior design and craftsmanship. The following suggestions will help you care for your metal detector so that you can enjoy it for years.

- ◆ Handle the metal detector gently and carefully. Dropping it can damage circuit boards and cases and can cause the metal detector to work improperly.
- ◆ Use and store the metal detector only in normal temperature environments. Temperature extremes can shorten the life of electronic devices and distort or melt plastic parts.
- ◆ Wipe the metal detector with a wet cloth occasionally to keep it looking new. Do not use harsh chemical, cleaning solvents, or strong detergents to clean the metal detector.
- ◆ The search coil is waterproof and can be submerged in either fresh or salt water. Be careful to prevent water entering the chassis. After using the coil in salt water, rinse it with fresh water to prevent corrosion of the metal parts.



CAUTION:

Modifying or tampering with the detector's internal components can cause a malfunction and will invalidate your detector's warranty.

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5 8

5c 8

50c 8

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Treasure Hunter's Code of Ethics

- ◆ Respect the rights and property of others.
 - ◆ Observe all laws, whether national, state or local.
 - ◆ Never destroy historical or archaeological treasures.
 - ◆ Leave the land and vegetation as it was. Fill in the holes.
 - ◆ All treasure hunters may be judged by the example you set.
- Always obtain permission before searching any site. Be extremely careful with your probing, picking up and discarding of trash, and ALWAYS COVER YOUR HOLES.

First Texas Products Limited 5 year Warranty

Bounty Hunter™ metal detectors are warranted against defects in workmanship or materials under normal use for five years from date of purchase to the original user. Liability in all events is limited to the purchase price paid. Liability under this Warranty is limited to replacing or repairing, at our option, any Bounty Hunter™ detector returned, shipping costs pre-paid, to First Texas Products. Damage due to neglect, accidental damage or misuse of this product is not covered by this Warranty.

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